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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/711,155	11/13/2000	James M. Clark	0918.0041C	6772

7590 08/02/2004
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EXAMINER

PATHAK, SUDHANSHU C

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 08/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/711,155

Applicant(s)

CLARK, JAMES M.

Examiner

Sudhanshu C. Pathak

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on May 11th, 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13-30 and 32-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-11, 13-20, 28-30 and 32-45 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 21-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on November 13th, 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-11, 13-30 & 32-45 are pending in the application.
2. Claims 12 & 31 have been canceled.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 21 & 2, 22 & 4, 24 (Method, Computer-readable medium of instructions) are rejected under 35 U.S.C. 102(e) as being anticipated by Sriram et al. (6,226,315).

Regarding to Claims 1, 2, 21 & 22, Sriram discloses a method of detecting a long code composed from two shorter codes comprising detecting the two shorter codes and based on the two detected shorter codes determining the phase of the long code (Column 2, lines 5-35 & Column 4, lines 9-60 & Column 5, lines 40-67 & Column 6, lines 1-35, 50-67 & Column 7, lines 40-67 & Column 8, lines 22-67 & Column 20, lines 10-40 & Claim 5 & Claim 9 & Claim 14 & Fig's. 1-3). Sriram discloses determining (synchronizing) the long code at the mobile unit by a three step process first determining the universal short code "SC0" and then determining the unique short code "SCk" and then to determining the short block code mask

repetition to number to determine the phase (offset) of the long code, thus determining the long code sequence and the phase of the long code wherein the long code is composed of the two short codes interleaved with one another (Column 2, lines 5-35 & Column 4, lines 9-60 & Column 5, lines 40-67 & Column 6, lines 1-35, 50-67 & Column 7, lines 40-67 & Column 8, lines 22-67 & Column 20, lines 10-40 & Claim 5 & Claim 9 & Claim 14 & Fig's. 1-3). Sriram further discloses implementing the receiver processing instructions in a digital signal processor (DSP), more specifically a Texas Instruments TMS320C54 (Column 12, lines 58-61 & Column 13, lines 24-35 & Column 18, lines 50-67 & Fig. 5). Sriram further discloses the two shorter codes to be pseudonoise (PN) codes (Column 1, lines 15-35, 44-60 & Column 7, lines 30-50 & Column 5, lines 45-67).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 23 & 5, 25 & 6, 26 & 7, 27 (Method, Computer-readable medium of instructions) are rejected under 35 U.S.C. 103(a) as being unpatentable over Sriram et al. (6,226,315) in view of L.B. Milstein et al. (Combination Sequences for Spread Spectrum Communications; IEEE Transactions on Communications; July 1977; Pages 691-696).

Regarding to Claims 3, 5-7, 23 & 25-27, Sriram discloses a method of detecting a long code from two shorter codes further comprising detecting the two shorter codes and based on the two shorter codes determining the synchronization of the long code as described above. Sriram also discloses repeating the shorter sequences within the period of the long code (Fig. 1-3 & Column 2, lines 20-30 & Column 4, lines 9-20 & Column 6, lines 7-25). However, Sriram does not disclose one of the shorter codes to be "n" symbols long and the other short code being "m" symbols long and furthermore "m" is greater than "n" and are mutually prime and $m=n+1$.

Milstein discloses a spread spectrum communication technique supporting multiple users implementing long codes to avoid jamming, but reduces the acquisition time associated with spreading long codes, by implementing the long codes as combination sequences (Abstract, lines 1-7). Milstein further discloses the shorter sequences are chosen to be prime (Introduction, Page 691, Column 1, lines 7-21). Milstein further discloses the shorter sequences to be of different lengths (Introduction, Page 691, Column 2, lines 45-50 & Simulation Results, Page 693, Column 1, lines 13-19, 30-35). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Milstein teaches that the shorter codes of different symbol sizes and mutually prime can be implemented to comprise a long code in a spread spectrum system as described in Sato and that the shorter code repeat within a period of the long code. Furthermore it is a matter of design choice to implement the shorter sequences such that " $m=n+1$ " where "m" and "n" being the shorter sequence sizes, and there is not criticality in such a selection.

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Furthermore it is also a matter of design choice to selecting the shorter codes such that the difference between them is of only one symbol and repeating the shorter sequences within the period of the long code, so as to detect the long code more easily and faster.

Allowable Subject Matter

7. Claims 8-11, 13-20, 28-30 & 32-45 are allowed.

Response to Arguments

8. Applicant's arguments with respect to claims 1-7 & 21-27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sudhanshu C. Pathak whose telephone number is (703)-305-0341. The examiner can normally be reached on M-F: 9am-6pm.

- If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (703)-305-4714.
- The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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- Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sudhanshu C. Pathak



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